

REMARKS

In the Office Action, the Examiner rejected claims 1-9, 11-12, 14-17, 34-36 under 35 USC §102 and rejected claims 10, 13, and 18-33 under 35 USC §103. These claim rejections are fully traversed below.

The claims have been amended to correct minor informalities and to further clarify the subject matter regarded as the invention. Claims 10 and 13 are cancelled. Claims 1-9, 11-12, and 14-36 remain pending.

Reconsideration of the application is respectfully requested based on the following remarks.

REJECTION OF CLAIMS 1-17, 34-36 UNDER 35 USC §102

In the Office Action, the Examiner rejected claims 1-17 and 34-36 under 35 USC §102(e) as being anticipated by U.S. Patent No. 6,061,650, Malkin et al, ('Malkin' hereinafter). Applicant respectfully traverses these rejections.

Malkin discloses methods and apparatus for transparently providing mobile network functionality. See title. Malkin requires that the node be authenticated by sending an authentication request to an authentication server residing at the home network. The service provider establishes, on behalf of the remote node, a remote connection between the remote node and the home network to enable packets to be transferred between the remote node and the home network. See Abstract. Thereafter, open communication is available between the remote node and its home network using the GRE and the Mobile IP protocol. See col. 5, lines 43-46.

The claims have been amended to further clarify the subject matter regarded as the invention. In view of the amended claims, Applicant respectfully submits that Malkin fails to anticipate the invention of claim 1.

Claim 11 depends from claim 1, and further recites:

“the PPP node profile associated with the node further identifying a service selection, the service selection indicating that PPP service is normal PPP service, mobile IP service, or proxy mobile IP service.”

The Examiner refers to column 4, lines 45-60 of Malkin. While Malkin does disclose permitted protocols (IPCP and IPXCP), Malkin neither discloses nor suggests storing a PPP node profile that identifies a service selection indicating that PPP service is normal PPP service, mobile IP service, or proxy mobile IP service. In fact, Malkin assumes that the service is a remote service. In other words, there is no selection made, since there is only one option. Accordingly, Applicant respectfully submits that claim 11 is patentable over Malkin.

Claim 12 depends from claim 11, and further recites:

“wherein composing the registration request packet is performed in response to obtaining the PPP node profile in which the service selection indicates that PPP service is proxy mobile IP service.”

As set forth above, Malkin neither discloses nor suggests a service selection that indicates that the PPP service is proxy mobile IP service (rather than normal PPP service or standard mobile IP service). In fact, no such selection is possible in Malkin, since Malkin assumes that the node is remote and therefore normal PPP service cannot be performed in Malkin. See col. 4, lines 40-60. Moreover, Malkin assumes that the node will always require proxy registration to be performed by the Foreign Agent (rather than ascertaining whether the node is, in fact, Mobile IP enabled via

the Mobile IP service selection). Accordingly, Applicant respectfully submits that Malkin fails to anticipate claim 12.

Based on the foregoing, it is submitted that independent claim 1 is patentably distinct from Malkin. In addition, it is submitted that the dependent claims are also patentably distinct for at least the same reasons. The additional limitations recited in the independent claims or the dependent claims are not further discussed as the above-discussed limitations are clearly sufficient to distinguish the claimed invention from Malkin. Thus, it is respectfully requested that the Examiner withdraw the rejection of the claims under 35 USC §102.

REJECTION OF CLAIMS 18-33 UNDER 35 USC §103

In the Office Action, the Examiner rejected claims 10, 13, and 18-33 under 35 USC §103(a) as being unpatentable over Malkin in view of “Mobile IP: Design Principles and practices,” (‘Mobile IP’ hereinafter). Applicant respectfully traverses these rejections.

As set forth above, Malkin requires that the node be authenticated via an Authentication Server (AS) located in the home network. See col. 2, lines 41-48; col. 4, lines 23-32. In addition, Malkin further states, “For example, to the perform authentication phase via an AS located in the service provider, the home network would have to reveal much of its user profile information to the service provider. This would also require the service provider make available significant amounts of additional storage space.” The Examiner admits that Malkin strongly disparages such an embodiment. Thus, Malkin teaches away from the pending claims. In view of this, there fails to be a motivation to combine the cited references to achieve the claimed invention.

The Examiner has taken official notice that the shared key to be used to generate a Foreign Home authentication extension was well known in the art and that a registration lifetime for any type of registration was well known in the art at the time of invention. While the concept of a key used to generate a Foreign-Home authentication extension is not novel, none of the cited references, separately or in combination, discloses or suggests storing such a key in a PPP node profile. Moreover, while the concept of the registration lifetime is not novel, none of the cited references discloses nor suggests storing a registration lifetime in a PPP node profile. Accordingly, Applicant respectfully submits that claim 1 is patentable over the cited art.

Claims 18-33 recite the use of a sequence number, or relate to determining or identifying (e.g., in a packet or data structure) whether a registration is an initial registration or a subsequent registration, or determining whether to accept a registration (e.g., independent claim 28). The general purpose of the sequence number in the pending claims is to ascertain whether the registration is an initial registration of the node with the Home Agent (e.g., when the sequence number is zero) or whether the registration is a re-registration of the node. See page 20, line 1- page 21, line 23 of Applicant's specification, for example.

The Examiner admits that Malkin fails to disclose such a feature, and seeks to cure the deficiencies of Malkin with Mobile IP, page 50, Section 3.5.2. However, page 50, section 3.5.2 of Mobile IP merely discloses the use of a sequence number in an agent advertisement, as the Examiner recognizes in the rejection of claims 18 and 19. The sequence number of Mobile IP in no manner suggests the number of registrations that have been performed on behalf of a particular node, but rather the number of advertisements that have been transmitted by the agent. An agent advertisement is known in the art to be transmitted by agents such as Foreign Agents, and is entirely different from registration request and reply packets. Mobile IP neither discloses nor suggests the use of a sequence number in a registration request or reply packet. Moreover,

Mobile IP neither discloses nor suggests ascertaining whether a registration is an initial or subsequent registration via a sequence number or any other mechanism. Thus, the combination of the cited references would fail to achieve the desired result. Accordingly, Applicant respectfully asserts that claims 18-33 are patentable over the cited references.

The Examiner has taken official notice that giving a sequence number for a registration in the order of registrations was well known at the time of invention. “For Example, the patent office assigns registrations numbers to newly published patents in sequence as they are published. The Examiner even notes that the Applicant’s representative, Elise R, Heilbrunn even has a registration number 42,649 which occurs in sequence. It would have been obvious to one of ordinary skill in the art of invention to use aspects of the Mobile IP protocol in Malkin et al. in order to sequence registration numbers, in order to quickly reference the registrations in a well organized fashion.” Applicant respectfully traverses this assertion. The use of sequence numbers in the manner claimed (e.g., in a registration request packet) is neither disclosed nor suggested by the cited art. For instance, with respect to claims 32 and 33, the use of sequence numbers to authenticate a node is novel and non-obvious. More particularly, determining whether a sequence number in a registration request packet is the same or different from that in a mobility binding table is neither disclosed nor suggested by the cited references.

The Examiner has further taken official notice in the rejection of claims 32 and 33 that it was obvious at the time of invention to deny an authentication or disallow full access, if one or more characteristics of a verification process were found to be unmatching. Applicant respectfully traverses this assertion. Accordingly, Applicant respectfully submits that claims 32 and 33 are patentable over the cited references.

With respect to independent claim 26, claim 26 recites:

In a Home Agent supporting Mobile IP, a method of processing a registration request packet composed on behalf of a node that supports the Point-to-Point Protocol, comprising:

receiving the registration request packet from a Foreign Agent that is performing proxy registration on behalf of the node, the registration request packet including a registration indicator indicating whether registration being performed by the Foreign Agent on behalf of the node is a re-registration by the Foreign Agent or an initial registration by the Foreign Agent;

determining from the registration indicator whether to accept registration of the node with the Home Agent;

composing a registration reply packet indicating whether registration of the node with the Home Agent is accepted; and

sending the registration reply packet to the Foreign Agent.

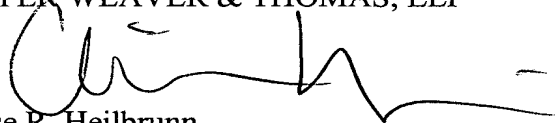
The Examiner admits that Malkin fails to disclose “receiving the registration request packet from a Foreign Agent that is performing proxy registration on behalf of the node, the registration request packet including a registration indicator indicating whether registration being performed by the Foreign Agent on behalf of the node is a re-registration by the Foreign Agent or an initial registration by the Foreign Agent.” The Examiner seeks to cure the deficiencies of the primary reference with Mobile IP, citing page 50, section 3.5.2 of Mobile IP. However, Applicant notes that this portion of Malkin discusses agent advertisements transmitted by the Foreign Agent, not a registration request packet transmitted by the Foreign Agent. Neither of the cited references, separately or in combination, discloses or suggests the claimed invention. Accordingly, the combination of the cited references would fail to achieve the desired result.

If there are any issues remaining which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number listed below.

Applicants hereby petition for an extension of time which may be required to maintain the pendency of this case, and any required fee for such extension or any further fee required in connection with the filing of this Amendment is to be charged to Deposit Account No. 50-0388 (Order No. CISC137).

Respectfully submitted,

BEYER WEAVER & THOMAS, LLP

A handwritten signature in black ink, appearing to read 'Elise R. Heilbrunn', written over the printed name.

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